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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,154	07/16/2003	James L. Sumiejski	3218R	1207

26645 7590 12/05/2005

THE LUBRIZOL CORPORATION  
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EXAMINER
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COSTALES, SHRUTI S

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 12/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/621,154

Applicant(s)

SUMIEJSKI ET AL.

Examiner

Shruti S. Costales

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/16/03 &amp; 8/2/05</u> | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statements submitted on July 16, 2003 and August 2, 2005 were filed in compliance with the provisions of 37 CFR § 1.97. Accordingly, the information disclosure statements filed by the applicant have been considered by the Examiner.

### ***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "A lubricating composition having a hydrocarbyl phosphite, a condensation product of a fatty acid with a polyamine, a borate ester, a borated dispersant, and an oil of lubricating viscosity".

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 4-13, 15, and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. More particularly, claims 4, 7, 8, 15, and 16 improperly recite a Markush group. Consequently, it is impossible to determine which elements of the group are required by the claims. When materials recited in a claim are

so related as to constitute a proper Markush group, they may be recited in the conventional manner, or alternatively. For example, if "wherein R is a material selected from the group consisting of A, B, C and D" is a proper limitation, then "wherein R is A, B, C or D" shall also be considered proper (emphasis added). See MPEP § 2173.05(h). Claims 5, 6, and 9-13 are rejected under 35 U.S.C. 112, second paragraph, as being dependent from a rejected base claim.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-5, 8-10, 14, and 16-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sumiejski et al. (U.S. Patent Number 6,103,673) in view of Vinci et al. (U.S. Patent Number 5,334,329).

Sumiejski discloses a composition useful as a transmission fluid (Col. 1, lines 6-9) having an oil of lubricating viscosity present in an amount of 10 to 50 percent by weight of a concentrate (Col. 17, lines 62-67 and Col. 18, lines 1-10). The composition further includes a hydrocarbyl phosphite, wherein the number of carbon atoms is at least 8 and preferably at least 12 (Col. 9, lines 34-67; Col. 10, lines 1-67; Col. 11, lines 1-67; and Col. 12, lines 1-18), wherein said hydrocarbyl phosphite is present in the composition in an amount of 0.14 to 0.25 percent by weight (Col. 15, lines 22-33). Sumiejski's composition also includes friction modifiers wherein a combination of at least two of the disclosed friction modifiers is added to the composition (Col. 15, lines 22-25). The friction modifiers include fatty acid amides, fatty amines, alkoxylated fatty amines, and hydrocarbyl imidazolines containing at least 12 carbon atoms in the hydrocarbyl group (Col. 15, lines 34-67 and Col. 16, lines 1-48), wherein the imidazolines are shown by structures shown in Col. 16. The friction modifiers also include borated epoxides (Col. 15, lines 34-63), wherein the borated epoxide is

prepared by reacting a hydrocarbyl epoxide having a structure shown in Col. 16 and boric oxide or boron trioxide or tetraboric acid or alkyl borates (Col. 16, lines 48-67 and Col. 17, lines 61). The friction modifiers are present in an amount of 0.1 to 0.45 weight percent of the composition (Col. 17, lines 35-40). Sumiejski's composition further includes dispersants, antioxidants, seal swell compositions, pour point depressants, corrosion inhibitors, dyes, fluidizing agents, and antifoam agents (Col. 19, lines 5-25). The Examples in Sumiejski disclose that the various components are mixed together for form a transmission fluid (See for example Col. 20, lines 20-48). The transmission fluid lubricates automotive engines, transmissions and axles (Col. 19, lines 56-67 and Col. 20, lines 1-5). The transmission system is an automatic transmission or manual transmission and the lubricant can also be used as a transaxle lubricant or gear lubricant (Col. 19, lines 56-67 and Col. 20, lines 1-5).

The difference between Sumiejski and the presently claimed invention is the requirement that a borated dispersant is added to the composition and the borated dispersant is derived from an N-substituted long chain alkenyl succinimide.

Vinci, which is drawn to lubricating compositions (Col. 1, lines 7-14), discloses ashless dispersants including borated alkenyl succinimide dispersants wherein the alkenyl group is derived from a polyalkylene having an Mn value of from about 700 to 5000 (Claims 36 and 39; Col. 17, lines 49-68; Col. 18, lines 1-68; and Col. 19, lines 1-57), therein intrinsically meeting the requirement of a long chain alkenyl succinimide. The amount of ashless dispersant utilized in the lubricating compositions of the present invention is an amount which is effective to provide the desired dispersant

Art Unit: 1714

characteristics, wherein generally from about 0.05 to about 30 parts by weight of the ashless dispersant is included in the lubricating composition (Col. 25, lines 24-37). It would have been obvious to one of ordinary skill in the art to add Vinci's borated alkenyl succinimide dispersants in Sumiejski's lubricating composition because these dispersants provide rust-inhibiting properties to the lubricating composition (Col. 25, lines 24-37), thereby obtaining the invention as set forth in the presently cited claims.

7. Claims 6, 7, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sumiejski in view of Vinci as applied to claims 1-5, 8-10, 14, and 16-22 above, and further in view of Tagliamonte et al. (U.S. Patent Number 6,528,458).

The difference between Sumiejski in view of Vinci and the presently claimed invention is the requirement that the condensation product of a fatty acid with a polyamine is a hydrocarbyl amide and the polyamine is selected from a specified group and the lubricating oil is selected from the group consisting of API Group II, III, IV, oil and mixtures thereof.

Tagliamonte, which is drawn to a lubricant and a method for lubricating a transmission (Col. 1, lines 6-10), discloses that one of the friction modifiers is a condensation production of a C<sub>8</sub> to C<sub>24</sub> fatty acid with a polyalkylene polyamine, and in particular, the product of isostearic acid with tetraethylenepentamine (Col. 8, lines 43-49). Tagliamonte also discloses lubricating oils from Groups II, III, and IV of the API (Col. 3, lines 21-30). It would have been obvious to one of ordinary skill in the art to add Tagliamonte's condensation product as one of the friction modifiers disclosed by

Sumiejski in view of Vinci because the resulting lubricant will provide smooth and efficient lubrication of a dual clutch transmission (Col. 2, lines 5-7), thereby obtaining the invention as set forth in the presently cited claims.

8. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sumiejski in view of Vinci as applied to claims 1-5, 8-10, 14, and 16-22 above, and further in view of Farng et al. (U.S. Patent Number 5,006,270).

The difference between Sumiejski in view of Vinci and the presently claimed invention is the requirement that the borate ester is tributyl borate, tri-2-ethylhexyl borate or mixtures thereof.

Farng, which is drawn to lubricant compositions (Col. 1, lines 16-19), discloses borate esters such as tributyl borate (Col. 3, lines 53-65), wherein tributyl borate is a presently claimed species of the generic borate esters presently claimed. It would have been obvious to one of ordinary skill in the art to add Farng's borate esters into the lubricating composition of Sumiejski in view of Vinci because the resulting composition will have excellent multifunctional/antioxidant activity (Col. 1, lines 16-19), thereby obtaining the invention as set forth in the presently cited claims.

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shruti S. Costales whose telephone number is (571)



Art Unit: 1714

272-8389. The examiner can normally be reached on Monday - Friday, 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

SSC  
Shruti S. Costales  
November 22, 2005

*Vasu Jagannathan*  
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